WE CLAIM:

1. A method of manufacturing an electronic device from a structure comprising at least one layer of device material sandwiched between a first layer of metal and a second layer of metal, comprising the steps of:
forming a first aperture through the first layer of metal, the second layer of metal and the device material,
applying a first layer of insulating material to the first metal layer,
insulating the walls of the first aperture,
providing a third metal layer on the first layer of insulating material,
forming a second aperture within the region defined by the first aperture,
providing a first electrical interconnection between the top and bottom surfaces of the through the second aperture,
creating an electrical interconnection between the third metal layer and the first metal layer,
selectively removing metal from the third metal layer to define first and second electrode areas, wherein the first terminal includes the electrical interconnection created between the third metal layer and the first metal layer and the second terminal includes the plated second aperture.

2. A method of manufacturing a device according to claim 1, wherein said step of insulating the walls of the first aperture is performed at least in part by the step of applying the first layer of insulating material to the first metal layer,

3. A method of manufacturing a device according to claim 1, comprising the further steps of:
applying a second layer of insulating material on the second metal layer, and
providing a fourth metal layer on the second layer of insulating material in advance of forming the second aperture.

4. A method of manufacturing a device according to claim 3, wherein said step of insulating the walls of the first aperture is performed at least in part by the step of applying the second layer of insulating material to the first metal layer,

5. A method of manufacturing a device according to claim 4, comprising the further steps of: forming a third aperture, in advance of the application of the insulating layers, through the first metal layer, second metal layer and the at least one layer of device material, forming a fourth aperture within the region defined by the third aperture, and plating the fourth aperture to provide a second electrical interconnection between the top and bottom surfaces of the device.

6. A method of manufacturing a device according to claim 5, comprising the additional step of selectively removing material from the fourth metal layer to define third and fourth terminals.

7. A method of manufacturing a device according to claim 1, wherein the first and third apertures are formed at opposing ends of the device.

8. A method of manufacturing a device according to claim 1, further comprising the initial step of defining singulation references in the first and second layers of metal.

9. A method of manufacturing a device according to claim 1, wherein the steps of applying a first layer of insulating material to the first metal layer and providing a third metal layer on the first layer of insulating material are performed in a single step by the application of a resin clad metal.

10. A method of manufacturing a device according to claim 9, wherein said resin clad metal is copper.

11. A method of manufacturing a device according to claim 5, wherein the steps of applying a second layer of insulating material to the second metal layer and providing a fourth metal layer on the second layer of insulating material are performed in a single step by the application of a resin clad metal.

12. A method of manufacturing a device according to claim 11, wherein said resin clad metal is copper.

13. A method of manufacturing a device according to claim 12, wherein said structure comprising at least one layer of device material sandwiched between a first layer of metal

and a second layer of metal is a multi layer structure comprising alternating layers of device material and metal.

14. A method of manufacturing a device according to claim 1, wherein the device is a PTC device and the device material is a PTC material.

15. A method of manufacturing a device according to claim 1, wherein said structure comprising at least one layer of device material sandwiched between a first layer of metal and a second layer of metal is provided as a laminated sheet.

16. An electronic device comprising:
a first metal layer,
a second metal layer
at least one layer of device material sandwiched between the first metal layer and the second metal layer which function as electrodes for the device material,
a first terminal for providing a first electrical connection to the device,
a second terminal for providing a second electrical connection to the device,
wherein the first terminal is electrically connected to the first metal layer and the second terminal is insulated from the first metal layer and electrically connected to the second metal layer by a conductive channel which passes through and is insulated from the first metal layer and device material.

17. A device according to claim 16, wherein the conductive channel comprises a metal plated channel.

18. A device according to claim 16, wherein the second terminal is insulated from the first metal layer by a first layer of insulating material.

19. A device according to claim 18, wherein said first layer of insulating material substantially covers said first layer of metal.

20. A device according to claim 18, comprising a third layer of metal disposed on the first layer of insulating material and where said third layer is divided by an isolation area to provide the first terminal and the second terminal.

21. A device according to claims 16, further comprising
a third terminal for providing a third electrical connection to the device,
a fourth terminal for providing a fourth electrical connection to the device,
wherein the fourth terminal is electrically connected to the second metal layer and the third terminal is insulated from the second metal layer and electrically connected to the first metal layer by a second conductive channel which passes through and is insulated from the second metal layer and device material.

22. A device according to claim 21, wherein the second conductive channel comprises a metal plated channel.

23. A device according to claim 21, wherein the second terminal is insulated from the second metal layer by a second layer of insulating material.

24. A device according to claim 23, wherein said second layer of insulating material substantially covers said second layer of metal.

25. A device according to claim 24, wherein the fourth terminal is electrically connected to the second metal layer by an interconnect formed through said second layer of insulating material.

26. A device according to claim 21, wherein the second conductive channel is provided at one end of the device.

27. The device of claim 26, wherein the first conductive channel and second conductive channel are located at opposing ends of the device.

28. The device of claim 16, wherein the first conductive channel is located at one end of the device.

29. A device according to claim 16, wherein said terminals are plated.

30. A device according to claim 29, wherein said terminals are plated with nickel, copper and/or gold.

31. A device according claim 16, wherein said insulating material comprises a cured resin.

32. A device according to claim 16, wherein said at least one layer of device material comprises alternating layers of device material and metal.

33. A device according to claims 16, wherein said device is a PTC device and said device material is a PTC material.

34. A PTC device comprising:
a first metal layer,
a second metal layer
at least one layer of PTC material sandwiched between the first metal layer and the second metal layer,
a first terminal for providing a first electrical connection to the device,
a second terminal for providing a second electrical connection to the device,
wherein the first terminal is electrically connected to the first metal layer and the second terminal is electrically connected to the second metal layer by a conductive channel which passes through and is insulated from the first metal layer and the at least one layer of PTC material.

35. A method of manufacturing a matrix of electronic devices from a structure comprising at least one layer of device material sandwiched between a first layer of metal and a second layer of metal, comprising the steps of:
forming a first array of apertures through the first layer of metal, the second layer of metal and the device material,
applying a first layer of insulating material to the first metal layer,
insulating the walls of the first array of apertures,
providing a third metal layer on the first layer of insulating material,
forming a second array of apertures such that each aperture of the second array is positioned within the region defined by an aperture from the first array of apertures,
providing electrical interconnections between the top and bottom surfaces of the matrix through the second array of apertures to create electrical interconnections between the third metal layer and the first metal layer,

selectively removing metal from the third metal layer to define first and second terminals for each device of the matrix, wherein each first terminal includes an electrical interconnection between the third metal layer and the first metal layer and each second terminal includes an insulated electrical interconnection between the top and bottom surfaces of the device.

36. A method of manufacturing a matrix of electronic devices according to claim 35, wherein said step of insulating the walls of the first array of apertures is performed at least in part by the step of applying the first layer of insulating material to the first metal layer,

37. A method of manufacturing a matrix of electronic devices according to claim 35, comprising the further steps of:
applying a second layer of insulating material on the second metal layer, and
providing a fourth metal layer on the second layer of insulating material in advance of forming the second array of apertures.

38. A method of manufacturing a matrix of electronic devices according to claim 37, wherein said step of insulating the walls of the first array of apertures is performed at least in part by the step of applying the second layer of insulating material to the first metal layer.

39. A method of manufacturing a matrix of electronic devices according to claim 38, comprising the further steps of:
forming a third array of apertures, in advance of the application of the insulating layers, through the first metal layer, second metal layer and the at least one layer of device material,
forming a fourth array of apertures within the region defined by the third array of apertures, and
providing electrical interconnections between the top and bottom surfaces of the device through the fourth array of apertures.

40. A method of manufacturing a matrix of electronic devices according to claim 40, comprising the additional step of selectively removing material from the fourth metal layer to define third and fourth terminals for individual devices in the matrix.

41. A method of manufacturing a matrix of electronic devices according to claim 35, wherein each of the first array of apertures and each corresponding aperture of the third array of apertures are formed on opposing ends of the individual devices within the matrix.

42. A method of manufacturing a matrix of electronic devices according to claim 35, further comprising the initial step of defining singulation references in the first and second layers of metal.

43. A method of manufacturing a matrix of electronic devices according to claim 35, wherein the steps of applying a first layer of insulating material to the first metal layer and providing a third metal layer on the first layer of insulating material are performed in a single step by the application of a resin clad metal.

44. A method of manufacturing a matrix of electronic devices according to claim 43, wherein the metal of said resin clan metal is copper.

45. A method of manufacturing a matrix of electronic devices according to claim 40, wherein the steps of applying a second layer of insulating material to the second metal layer and providing a fourth metal layer on the second layer of insulating material are performed in a single step by the application of a resin clad metal.

46. A method of manufacturing a matrix of electronic devices according to claim 45, wherein the metal of said resin clan metal is copper.

47. A method of manufacturing a matrix of electronic devices according to claim 35, wherein said structure comprising at least one layer of device material sandwiched between a first layer of metal and a second layer of metal is a multi layer structure comprising alternating layers of device material and layers of metal.

48. A method of manufacturing a matrix of electronic devices according to claim 35, wherein the device is a PTC device and the device material is a PTC material.

49. A method of manufacturing a matrix of electronic devices according to claim 40, comprising the additional step of joining a second matching matrix of electronic devices to

the matrix such that terminals of adjoining faces of each matrix are aligned and electrically connected.

50. A method of manufacturing a matrix of electronic devices according to claim 35 comprising the further step of singulation of devices.

51. A method of manufacturing a matrix of electronic devices according to claim 50 wherein the step of singulation groups two or more devices together as individual devices.

52. A method of manufacturing a matrix of electronic devices according to claim 50 wherein said individual devices are configured as SIP packages.

53. A method of manufacturing a matrix of electronic devices according to claim 50 wherein said individual devices are configured as DIP packages.

54. A method of manufacturing a matrix of electronic devices according to claim 50, wherein the device material is a dielectric material.

55. A matrix of electronic devices comprising:
a first metal layer,
a second metal layer
at least one layer of device material sandwiched between the first metal layer and the second metal layer which function as electrodes for the device material,
a first array of terminals for providing electrical connections to individual devices of the matrix,
a second array of terminals for providing electrical connections to individual devices of the matrix,
wherein the first array of terminals are electrically connected to the first metal layer and the second array of terminals are insulated from the first metal layer and electrically connected to the second metal layer by conductive channels which pass through and are insulated from the first metal layer and device material.

56. A matrix of electronic devices according to claim 55, wherein the conductive channels comprise metal plated channels.

57. A matrix of electronic devices according to claim 55, wherein the second array of terminals are insulated from the first metal layer by a first layer of insulating material.

58. A matrix of electronic devices according to claim 57, wherein said first layer of insulating material substantially covers said first layer of metal.

59. A matrix of electronic devices according to claim 57, comprising a third layer of metal disposed on the first layer of insulating material and where said third layer is divided to provide the first array of terminals and the second array of terminals.

60. A matrix of electronic devices according to claim 55, further comprising
a third array of terminals for providing electrical connections to the individual devices,
a fourth array of terminals for providing electrical connections to the individual devices,
wherein the fourth array of terminals are electrically connected to the second metal layer,
and the third array of terminals are insulated from the second metal layer and electrically connected to the first metal layer by a second array of conductive channels which pass through and are insulated from the second metal layer and material.

61. A matrix of electronic devices according to claim 60, wherein the second array of conductive channels comprises metal plated channels.

62. A matrix of electronic devices according to claim 60, wherein the second array of terminals are insulated from the second metal layer by a second layer of insulating material.

63. A matrix of electronic devices according to claim 60, wherein said second layer of insulating material substantially covers said second layer of metal.

64. A matrix of electronic devices according to claim 63, wherein the fourth array of terminals are electrically connected to the second metal layer by interconnects formed from through said second layer of insulating material.

65. A matrix of electronic devices according to claim 60, wherein each of the array of second conductive channels is provided at an end of each device of the matrix.

66. A matrix of electronic devices according to claim 65, wherein each of the array of first conductive channels and second conductive channels are provided on opposing ends of each device of the matrix.

67. A matrix of electronic devices according to claim 65, wherein the terminals are plated.

68. A matrix of electronic devices according to claim 65, wherein the terminals are plated with nickel, copper and/or gold.

69. A matrix of electronic devices according to claim 55, wherein said insulating material comprises a cured resin.

70. A matrix of electronic devices according to claim 55, wherein said at least one layer of device material comprises alternating layers of device material and layers of metal.

71. A matrix of electronic devices according to claim 60, wherein said device is a PTC device and said device material is a PTC material.

72. A stacked matrix comprising at least two matrices according to claim 60 which are stacked on top of each other and in which corresponding terminals are electrically connected.